REMARKS

Claims 1-13 are pending in the application.

Claims 1-13 were rejected.

Claim 1 is amended herein.

I. 35 U.S.C. §103 Claim Rejections

In the Office Action, claims 1-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fong *et al.* (US. Patent No. 6,493,328) in view of Meier (US. Patent No. 5,673,031). Applicants respectfully traverse this rejection and request reconsideration by the Examiner.

The invention is directed to a method for providing connectivity for a mobile unit in a wireless communication system with at least two service areas of the wireless system. In a preferred embodiment of the invention, the multi-point connectivity provided according to the method of the invention enables the maintenance of a substantially continuous connection between the mobile unit and data network interfaces associated with each of the at least two service areas, as the mobile unit moves between a primary coverage area of a first service area and a primary coverage area of a second service area.

As taught by the Applicants, in wireless systems of the art, an interface may be provided between individual service areas of the wireless system and a data network, which interface is often implemented in a Packet Data Serving Node (PDSN). It is a characteristic of such data interface arrangements that the network controlling element (*e.g.*, a BSC) for each service area is interfaced to a separate PDSN. Applicants further pointed out that a limitation of the current art is that, for a given MN, only one access connection (*i.e.* one PDSN connection) to a data network is permitted at a time. Thus, as an MN using a data connection

moves from one service area to another, a hard handoff is required from an initial service area network controlling element to a network controlling element in the second service area.

The invention provides a solution to the problem of data loss occurring at such a hard handoff using the existing MN architecture and consistent with current standards. In particular, the Applicants recognized that an MN can maintain plural communication paths using the Radio Link Protocol (RLP), and that this capability can be advantageously applied to provide data connectivity from an MN to multiple service areas. Using that RLP capability, the Applicants devised a new network interface that can be implemented at a service-area network controlling element to permit the MN to maintain separate RLP instances (channels) with (1) the service-area network controlling element and (2) with another network controlling element in a separate service area (which is interfaced to a separate PDSN than the PDSN interfaced to the initial network controlling element). With the network interface of the invention, the MN is thereby able to maintain simultaneous connections with multiple PDSNs.

Specifically, as an MN moves into radio contact with a new service area, it establishes plural communications channels with a network attachment point (*e.g.*, a base transceiver station) in the new service area, and ultimately with a network controlling element of the new service area. At least one of the plural channels is established, via the new network controlling element, with the PDSN of the new service area for registration with that PDSN, and ultimately for data transmission via that PDSN. At the same time, at least one other of the plural channels is established, via the new network controlling element and via an inter-service-area communications channel, to connect the MN with the network controlling element of the initial service area, and ultimately with the PDSN associated with that initial network controlling element.

Thus, while the MN negotiates registration and initialization procedures with the PDSN of the new service area (via the channel established with the new PDSN), its data communications stream is maintained with the original PDSN via the separate communications channel established back to the initial network controlling element and associated PDSN. Once the registration and initialization procedures have been completed with the new PDSN, and a data communication channel established from the MN to the new PDSN (via the network controlling element of the new service area), the data communications channel established via the new network controlling element back to the original network controlling element is terminated.

It can thus be seen that the invention provides simultaneous connectivity for an MN to multiple network controlling elements and thereby permits the MN to maintain a temporary continuing data communications path with an original PDSN after having moved into a new service area associated with another PDSN. Accordingly, the invention eliminates the data loss of the prior art during the time required for registration with the PDSN associated with a new service area.

Applicants showed in their response to the prior Office Action that the primary reference cited against their claims, Fong, plainly does not teach the novel features of the invention. In that regard, Applicants express their strong disagreement with the statement in the current Office Action that the Applicants "admitted that Fong's system was similar to their invention." Although Applicants noted in that prior response that Fong is generally concerned with the provision of a data connection between a mobile node in a wireless system and a server in a data network, that comment was made in the context of a following statement that such was the only point of similarity between the teaching of Fong and their invention.

While Fong discloses an interface between a base station controller of a service area and a PDSN, as associated with an implementation of a wireless data channel, and, indeed, includes a general discussion of the Radio Link Protocol (RLP), nothing in that disclosure could reasonably be construed to show or suggest the multi-point connectivity provided for a mobile node according to the methodology of the invention here. None of the RLP discussion in Fong is related to the idea of the invention for using RLP to establish plural communications channels between a mobile node and a serving BSC. Nor, is there any suggestion in Fong for the establishment of concurrent communications paths from a mobile node to multiple service areas and PDSNs associated therewith. Indeed, the entire discussion of Fong is concerned solely with the movement of a mobile node within a single wireless service area – and access to the single PDSN associated with that single service area, along with the interface of the mobile node with various base stations operating under the control of the BSC for that single service area. Nothing in Fong can be read to suggest any concern with the movement of a mobile node from a first service area to a second service area, much less with the problem of overcoming the hard break in a data communications channel resulting from such movement.

The secondary reference, Meier, is cited as teaching the use of RLP for establishing plural communications channels between a mobile node and a servicing BSC. Applicant respectfully suggests that, in fact, there is no teaching whatsoever in Meier for the use of RLP. Although there is a single instance in Meier of the use of the phrase "radio link protocol" (col. 21, line 46), it is clear from the context that such phraseology is simply a generic reference to a protocol being used on radio links described by Meier. Certainly there is no discussion in Meier of any protocol considered there as offering the capability for establishing plural

communications channels via a common RF link, as characterizes the RLP standard. Indeed, the standard by which the Radio Link Protocol (as used by the method of the invention) was established did not come into existence until 1995 – see TIA/EIS/IS-130 *800 Mhz Cellular Systems – TDMA Radio Interface – Radio Link Protocol I*, Telecommunications Industry Association, 1995. Even the most recent filing date for the application that matured in the Meier patent is July of 1994, and related application data show the application to be a continuation in part of parent applications going back to 1989. Simply put, not only is Meier devoid of any actual teaching respecting RLP, the protocol did not even exist at the time of filing the underlying application.

In sum, nothing in the teaching of Fong or Meier, or any combination thereof could reasonably be construed to show or suggest the idea of establishing plural communication channels between a mobile node and a network controlling element of the service area with which it is in communication, and certainly not the use of one of those communication channels to effect a continuing link with a prior network controlling element while registration with a data serving node associated with the new network controlling element is carried out via the other communication channel.

Although Applicants believe it clear that their invention is patentable over the teachings of Fong and Meier, they have amended independent claim 1 herein in a manner intended to more clearly reflect the distinctiveness discussed herein.

Withdrawal of the rejection under §103 of claims 1-13 is respectfully requested.

II. Conclusion

Having fully addressed the Examiner's rejection bases herein, it is believed that, in view of the preceding amendments and remarks, this application now stands in condition for allowance. Such allowance is respectfully requested.

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Please charge any fees due in respect to this amendment to Deposit Account No. 50-1944.

Respectfully submitted,

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Dated: May 5, 2004

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I hereby certify that this Response to Office Action is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on May 5, 2004.

By: _____
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